IN THE CLAIMS

1-6. (Cancelled)

Claim 7 has been amended as follows:

7. (Currently Amended) A method for generating a homogenous magnetization in a spatial examination volume of a magnetic resonance system during examination of a subject located in the examination volume, said magnetic resonance system comprising a ~~body coil~~ whole-body antenna comprising a plurality of resonator segments that are electromagnetically decoupled from each other, and a control and evaluation device connected to said plurality of resonator segments, said method comprising the steps of:

storing predetermined, segment-specific excitation parameters for the respective resonator segments of said single whole-body antenna in said control and evaluation device;

with said control and evaluation device, separately activating said plurality of resonator segments of said whole-body antenna corresponding to said excitation parameters in a temporal sequence within ~~an~~ a single magnetic resonance excitation sequence using different sets of said excitation parameters, with each set of excitation parameters producing a different phase ~~distributions~~ distribution of the nuclear magnetization distributions in the examination volume, to cause said nuclear magnetization distributions to constructively ~~overlapping~~ overlap to form a ~~resulting~~ homogenous total nuclear magnetization distribution in said examination volume ~~by changing said different parameter sets~~ resulting from said single excitation sequence, and using a number of

said different parameter sets to cause local power losses, introduced into the examination volume in said single excitation sequence as a consequence of activation of the respective segments with said parameter sets, to be locally differently situated in the patient, with said local power losses not coinciding and not mutually reinforcing during said single excitation sequence.

8. (Previously Presented) A method as claimed in claim 7 wherein the step of storing said plurality of sets of predetermined, segment-specific excitation parameters comprises generating said sets of excitation parameters dependent on a homogeneity of a magnetic field produced by the parameter set, and comprising selecting the parameter sets used in said excitation sequence dependent on said homogeneity.

9. (Previously Presented) A method as claimed in claim 7 wherein said examination volume comprises a plurality of sub-volumes, and comprising, for each sub-volume, using a plurality of different excitation parameter sets for sequential activation of said resonator segments.

Claim 10 has been amended as follows:

10. (Currently Amended) A method as claimed in claim 9 comprising selecting said excitation parameter sets to cause ~~foot~~ flip angle amplitudes in the respective sub-region to be optimally large, and having respective flip angle phase distributions in said examination volume allowing for said constructive overlapping.

Claim 11 has been amended as follows:

11. (Currently Amended) A method as claimed in claim 10 comprising determining at least one of an amplitude of an excitation parameter set and an excitation duration used with an excitation parameter set, and a phase shift of an excitation parameter set, to produce a substantially homogenous ~~foot~~ flip angle amplitude distribution in said examination volume.

Claim 12 has been amended as follows:

12. (Currently Amended) A method as claimed in claim 9 comprising selecting said excitation parameter sets to cause ~~foot~~ flip angle amplitudes in the respective sub-region to be homogenous, and having respective flip angle phase distributions in said examination volume allowing for said constructive overlapping.

Claim 13 has been amended as follows:

13. (Currently Amended) A method as claimed in claim 12 comprising determining at least one of an amplitude of an excitation parameter set and an excitation duration used with an excitation parameter set, and a phase shift of an excitation parameter set, to produce a substantially homogenous ~~foot~~ flip angle amplitude distribution in said examination volume.

Claim 14 has been amended as follows:

14. (Currently Amended) A magnetic resonance system comprising:

a magnetic resonance scanner having a whole-body antenna therein comprised of a plurality of resonator segments that are electromagnetically decoupled from each other;

a control and evaluation device connected to said plurality of resonator segments;

said control and evaluation device storing predetermined, segment-specific excitation parameters for the respective resonator segments; and

said control and evaluation device separately activating said plurality of resonator segments of said whole-body antenna corresponding to said excitation parameters in a temporal sequence within ~~an~~ a single magnetic resonance excitation sequence using different sets of said excitation parameters, with each set of excitation parameters producing a different phase ~~distributions~~ distribution of the nuclear magnetization distributions in the examination volume, to cause said nuclear magnetization distributions to constructively ~~overlapping~~ overlap to form a ~~resulting~~ homogenous total nuclear magnetization distribution in said examination volume ~~by changing said different parameter sets~~ resulting from said single excitation sequence, and using a number of said different parameter sets to cause local power losses, introduced into the examination volume in said single excitation sequence as a consequence of activation of the respective segments with said parameter sets, to be locally differently situated in the patient, with said local power losses not coinciding and not mutually reinforcing during said single excitation sequence.